

SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION

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 May 17, 1994
 cu: Board, BSL
 (Cover letter)

John Caffrey, Chairman
 State Water Resources Control Board
 P. O. Box 100
 Sacramento, California 95812-0100

SUBJECT: Review of Standards for the San Francisco
 Bay/Sacramento-San Joaquin Delta Estuary

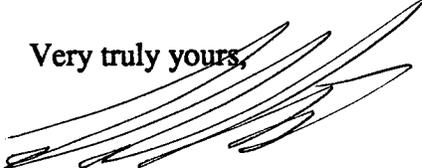
Dear Mr. Caffrey:

As you may know, the San Francisco Bay Conservation and Development Commission participated extensively in the adoption of the 1978 Delta Water Quality Control Plan and Water Right Decision 1485, and more recently in the hearings and adoption of the 1991 Water Quality Control Plan for Salinity. The Commission submitted testimony in several of the hearings and commented on the draft plans, the program of implementation, and the draft water right decision.

As most of the Commission's testimony and comments remain relevant, we ask that the Board review and accept this testimony and these comments into the record as part of the workshops and hearings associated with the triennial review now being undertaken by the Board. Attached are copies of these materials for your use.

If you have any questions, please contact Steven McAdam, the staff member most familiar with this issue.

Very truly yours,


 WILLIAM TRAVIS
 Deputy Director

Enc.

WT/SM/mm

cc: Thomas R. Howard, State Water Resources Control Board

SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION

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March 6, 1991

Mr. W. Don Maughan, Chairman,
and Members of the State Water Resources Control Board
Paul R. Bonderson Building
901 P Street
P. O. Box 100
Sacramento, California 95814

SUBJECT: Final Draft Water Quality Control Plan for Salinity ✓

Dear Chairman Maughan and Members of the Board:

On August 16, 1990, the Commission presented comments to the State Water Resources Control Board during its public hearing on the Revised Draft Plan. The Commission noted that it is mandated to protect San Francisco Bay and the Suisun Marsh, and their water quality and fish and wildlife resources, under the McAteer-Petris Act, the Suisun Marsh Preservation Act, and the federal Coastal Zone Management Act. As you may recall, the Commission noted that the appellate court decision on the D-1485 Delta water cases (called the Racanelli decision) held, among other things, that protecting the beneficial uses of the Bay/Delta Estuary is a principal focus of the State Board when it considers water rights. In addition, the Racanelli decision clarified that the State Board must consider the public trust in setting standards to protect the beneficial uses of the Bay/Delta Estuary. The Commission and the State Lands Commission share trustee responsibilities with the State Board in protecting the Bay/Delta Estuary and the McAteer-Petris Act is a further declaration by the Legislature as to what the trust means for San Francisco Bay and the Suisun Marsh.

The Commission also commented that under the Porter-Cologne Act and the federal Clean Water Act, the State Board has the legal duty to balance the environmental quality of the State's waters with many other municipal, industrial and agricultural uses, including those accommodated through water diversions. In this balancing, all of the beneficial uses must be considered of equal importance. Also, the State Board has the legal duty in furtherance of the public trust to act as an affirmative advocate of and consider first and foremost the protection of the environmental quality of the Bay and Delta when judging how water uses are to be allocated.

The Commission recommended that during the preparation of the water quality control plan for the Estuary, the State Board should first develop standards to protect fully public trust needs and beneficial uses. Then, the State Board could review and adopt those levels of protection which are found to be reasonable and in the overall public interest. Therefore, the adopted water quality control plan should contain attainment goals for the protection

of the Bay and Delta, even if some goals may not be immediately achievable. The State and Regional Boards must subsequently work for attainment of the goals in every legal and practical way. Without goals that will protect both the Delta and the Bay, water users and diverters and the public will not understand or be able to plan appropriately for water use.

We have reviewed the Final Draft Plan in light of the Commission's previous comments on the Revised Draft Plan, as well as the Commission's testimony during the Phase I hearings, and have the following general comments. We hope that they are helpful and fully addressed by the Board in its adoption of Final Water Quality Control Plan for Salinity for the Bay/Delta Estuary.

- a. The Final Draft Plan will not prevent the continued degradation of the estuary caused by fresh water diversions and consequent increasing salinities and, in fact, constitutes a further weakening of the standards contained in the Revised Draft Plan. The Final Draft Plan now claims, without substantiation, that "The water quality objectives established in the Plan together with other currently effective controls, will protect established beneficial uses in compliance with all applicable state laws" (p. 2-2). If the Final Draft Plan is relying on other controls, it should be noted that the only other "currently effective controls" are the flow standards contained in the 1978 Delta Water Quality Control Plan (1978 Delta Plan), which will be superceded in the Water Rights Phase of these hearings, which in any case have proven not to protect beneficial estuarine uses;
- b. The Final Draft Plan still will not provide reasonable protection for the beneficial uses of the estuary, as it claims, because it continues to separate consideration of water quality objectives from flow objectives, making it impossible to develop a coherent management program of integrated and interrelated standards for protecting the functioning of the estuarine ecosystem. In addition, the Final Draft Plan has introduced a new means of fragmenting protective measures for the estuary by distinguishing flow requirements for the Bay, which it defines as downstream of Carquinez Strait (p. 1-5), from what it defines as the estuary upstream (p. 1-19). This artificial separation ignores voluminous testimony that the entire estuary should be considered as an inter-related ecosystem and discounts the value of fresh water flows to the entire ecosystem;
- c. The Final Draft Plan continues to place inappropriately, and contrary to the State Board's fiduciary responsibilities as a trustee of the public trust, a burden of proof for establishing the relationships among flows, salinities, and the ecosystem that is so strict that it could seldom be met in any natural resource management plan and fails to address estuary needs;

- d. The Final Draft Plan continues to give greater weight to minimizing impacts on water diversion than minimizing impacts on the estuary because it does not consider the cause and effect relationships among flow, salinity and ecosystem impacts, while it considers the effect of proposed objectives on levels of diversion. The Final Draft Plan ignores quantifiable impacts of alternative water diversions on natural resources, such as salinity levels in the Suisun Marsh, Salmon smolt survival, or entrapment zone location, while greater weight is given to the quantifiable impacts of alternatives on water diversions. Section 6 of the Final Draft Plan discusses possible impacts of the alternatives on some natural resources, but too cursorily and qualitatively to systematically evaluate the relative impacts of each alternative;
- e. The Final Draft Plan no longer recommends adoption of the Suisun Marsh Preservation Agreement (SMPA), which improves the Revised Draft Plan. However, the Final Draft Plan still appears confused on this issue, because it claims that the SMPA "may adequately protect managed wetlands" (p. 5-44), identifying D-1485 Suisun Marsh standards as "SMPA" (p. 6.2-1), and then stating that the SMPA deficiency standards "could" increase salinity in the western Marsh (p. 5.6-3). Instead of the SMPA, the Final Draft Plan recommends new Suisun Marsh standards that are considerably weaker than the 1978 Delta Plan because they abandon the critical monitoring station at the mouth of the Montezuma Slough and move other monitoring stations further upstream. The Final Draft Plan mistakenly claims that "these changes would not seem to change the level of protection," when they clearly allow higher salinities in what the 1978 Delta Plan EIR identified was the most productive part of the Suisun Marsh. In addition, the Final Draft Plan has abandoned the position adopted in the 1978 Delta Plan that upstream water projects should mitigate the adverse impacts of their operation on Suisun Marsh;
- f. The Final Draft Plan has abandoned the proposed anti-degradation objectives to protect the brackish tidal wetlands of Suisun Marsh and Suisun Bay and has failed to replace them with any other means of protecting brackish tidal wetland habitat and the endangered species which depend on it. The Final Draft Plan chooses not to consider the Commission's recommended objectives at least partly because the State Board is unable to convert higher high tide salinities to high tide salinity (p. 5.47), even though such conversion was based on a State Board memorandum and Department of Water Resources models presented into evidence;

- g. The Revised Draft Plan would have slightly improved salinity standards for striped bass spawning in the Delta from the existing conditions, but recognized that without improvements in the more significant flow standards that provide increased outflow, reduction in flow reversals, and management of the entrapment zone, there will be little improvement in the population of striped bass in the estuary. The Final Draft Plan has weakened the salinity objectives it had proposed in the Revised Draft Plan for striped bass by the insertion of an undefined relaxation of the limit of the time period for the objective by inserting "or until spawning has ended." In addition, the Final Draft Plan would allow higher salinities in dry and critical years at Prisoners Point;
- h. The proposed temperature objectives included in the Revised Draft Plan to protect salmon in the Sacramento and San Joaquin Rivers, which, if rigorously enforced in conjunction with the improved salmon smolt survival standard, could have improved salmon populations in the estuary, have been made almost meaningless in the Final Draft Plan because they now specifically exclude reservoir releases as a means of controlling temperature. The Final Draft Plan provides no evidence that any other means could achieve the temperature objectives. In addition, the Revised Draft Plan's proposed temperature objectives have been further weakened by excluding the period of July through August; and
- i. The lower priority given by the State Board to beneficial uses in the estuary is illustrated by the proposed abandonment of even the minimal standards required in the 1978 Delta Plan during the present drought.

At the 1990 hearing on the Revised Draft Plan, the Commission recommended that the State Board take a number of specific actions. Those recommendations, and our analysis as to whether the Final Draft Plan has responded to them, follows:

- a. The State Board should recognize the technical impossibility of separating flow from salinity in the development of an effective and balanced set of objectives for managing and protecting the San Francisco Bay Estuary. The Water Quality Control Plan should therefore include the striped bass and salmon flow objectives assumed but not stated in its analysis of impacts and benefits of the Revised Draft Plan. This recommendation has been ignored, even though the State Board recognizes that in order to analyze the Final Draft Plan's impact on water supply some flow assumptions have to be made (p. 6.19);

- b. The Revised Draft Plan should explicitly state its goals in setting objectives for managing the estuary and explain why alternative goals, such as maintaining and restoring the estuary, were rejected. The Final Draft Plan still fails to state clearly its management goals; however, it has selected "present conditions" as its base case for assessing the impacts of the proposed objectives (p. 5.2). This acceptance of the present degraded level of natural resources as a measure for comparison inevitably biases the Final Draft Plan against addressing substantive measures to enhance to and maintain the estuary at historic levels. In addition, the Final Draft Plan rejects the use of unimpaired flows as a basis for assessing alternatives to managing the estuary, while retaining unimpaired flows for determining water supply (p. 1-6). We find it curious that the use of unimpaired flows is valid in determining how much water is available for irrigation and other diversions, but not for determining how much water is available for the ecosystem;
- c. The Revised Draft Plan should not use the Suisun Marsh Preservation Agreement as a basis for salinity objectives for the Suisun Marsh, and the terms and intent of the 1978 Delta Plan should remain in effect. While the Final Draft Plan no longer adopts the SMPA's recommended objectives, it has abandoned the intent of the 1978 Delta Plan - to maintain salinities in the Suisun Marsh at pre-water project levels;
- d. A salinity standard should be established at Martinez to protect brackish tidal wetlands in Suisun Bay and Suisun Marsh against degradation. The Final Draft Plan fails to adopt objectives for tidal wetlands, citing uncertainty that the Martinez Station proposed by the Commission would provide better protection for "south shore tidal reaches" than one at Chipps Island or in Grizzly Bay. While the Final Draft Plan ignores the Commission's concern about the tidal wetlands in the Suisun Marsh itself, the Final Draft Plan also proposes no objectives for Chipps Island (which would be unsuitable due to its location 12 miles upstream), and the Final Draft Plan would eliminate the only station previously proposed near Grizzly Bay (S36);
- e. The salmon temperature objectives in the Revised Draft Plan should be modified to provide lower temperatures that result in higher smolt survival levels than that recommended, and these objectives should clearly establish that they will be met by measures that include

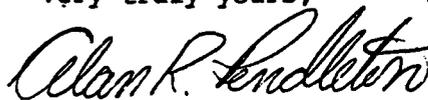
increased flow releases. The Final Draft Plan has excluded flow releases as a means to meet temperature objectives;

- f. Salinity objectives should be established in the Revised Draft Plan to protect Delta Smelt from extinction. Due to the strict burden of proof required by the Final Draft Plan, no objectives are proposed to protect the Delta smelt;
- g. The Final Plan should evaluate an alternative whose goal is maintaining estuarine resources, and would include: (1) salinity objectives to maintain the managed and tidal wetlands of Suisun Marsh and Suisun Bay; (2) both flow and salinity objectives for fisheries that were recommended by the State Board staff in the 1988 first draft water quality control plan; and (3) salinity objectives to maximize phytoplankton in Suisun Bay. No such alternative was formulated or analyzed;
- h. To fully meet the requirements of CEQA, the Plan should: (1) provide a clear project definition; (2) systematically analyze the impact on the estuarine ecosystem of alternatives, using the quantifiable cause and effect relationships among flow, salinity, and the ecosystem that were presented in the Phase 1 hearings; and (3) clearly describe the trade-offs between impacts on diversions and impacts on the estuary for each alternative. The Final Draft Plan does not provide a clear project definition, as it does not articulate management goals for the estuary, nor does it systematically analyze impacts and trade-offs between estuarine resources and beneficial uses of diverted water; and, finally,
- i. The Final Plan should identify an adaptive management planning process for the estuary that includes the following components: (1) a conceptual model of how flow affects the estuarine ecosystem; (2) the goals established for managing components of the ecosystem; (3) establishment of flow and water quality standards to meet these goals; (4) a research and monitoring program to improve these standards; (5) clear enforcement policies and mechanisms; and (6) a process for periodic comprehensive review of the estuarine management program. The Final Draft Plan fails to provide a systematic, adaptive management planning process (as was done in the 1978 Delta Water Quality Control Plan), because of its inherent methodological and conceptual flaws.

Mr. W. Don Maughan
March 6, 1991
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We are extremely disappointed that the Commission's testimony, comments and recommendations have been largely ignored by the State Board throughout the Bay-Delta hearing process. As a sister State agency with planning and regulatory responsibility for San Francisco Bay and the Suisun Marsh, we had hoped that our laws and policies would have been given reasonable consideration by the State Board. There is little or no likelihood that the Revised Draft Plan will protect the public trust values and many important beneficial uses of the Estuary, which should be its main objective. We hope that future decisions affecting the San Francisco Bay/Delta Estuary will provide better protection to the important public trust values of the estuary, and particularly its fish and wildlife resources.

Very truly yours,



ALAN R. PENDLETON
Executive Director

ARP/sm

cc: All Commissioners and Alternates



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MEMORANDUM

DATE: February 20, 1991
TO: Steven McAdam
BCDC
FROM: Philip B. Williams, Ph.D., P.E.
President
RE: Bay-Delta Water Quality Control Plan Review

RECEIVED
FEB 25 1991

SAN FRANCISCO BAY CONSERVATION
& DEVELOPMENT COMMISSION

As you requested, I have reviewed the State Water Resources Control Boards' final draft Water Quality Control Plan for Salinity date January 1991, and have compared it with the conclusions and recommendations contained in BCDC's testimony on the earlier draft plan. The following is my analysis of how the latest Plan has responded to BCDC's concerns:

BCDC CONCLUSIONS

- a. **The Revised Draft Plan would not prevent the continued degradation of the estuary caused by fresh water diversions and consequent increasing salinities.**

The revisions contained in the Final Draft Plan (FD) in general constitute a further weakening of standards contained in the earlier Revised Draft (RD) and would therefore allow continued degradation due to freshwater flow diversions. The final plan now claims, without substantiation, "The water quality objectives established in the Plan together with other currently effective controls, will protect established beneficial uses in compliance with all applicable state laws" (p. 2-2). If the plan is relying on other controls, it should be noted that the only other "currently effective controls" are the flow standards contained in the 1978 Delta Plan, which will be superseded in the next phase of the Board's Bay-Delta hearings (footnote p. 1-2), and in any case have proven not to protect beneficial estuarine uses.

- b. **The Draft Revised Plan cannot provide reasonable protection for the beneficial uses of the estuary, as it claims, because it has separated consideration of water quality objectives from flow objectives, making it impossible to develop a coherent**

management program of integrated and interrelated standards for protecting the functioning of the estuarine ecosystem.

The FD Plan continues its artificial separation of flow and water quality objectives, which makes any program to protect estuarine resources impossible.

In addition, the FD Plan has introduced a new means of fragmenting protective measures for the estuary by seeking to distinguish flow requirements for the Bay, which it defines as downstream of Carquinez Straits (p. 1-5), from what it defines as the estuary upstream (p. 1-19). This artificial destruction has been made despite voluminous testimony that the entire Bay is part of the San Francisco Bay Estuary and appears to discount the value of freshwater flows to the entire ecosystem.

- c. **The Revised Plan establishes a burden of proof for establishing the relationships among flows, salinities, and the ecosystem that is so strict that it could seldom be met in a natural resource management plan.**

The FD Plan continues to place the burden of proof on evidence for protecting natural resources rather than the beneficial use of diverted water.

- d. **The Revised Draft Plan would give greater weight to minimizing impacts on water diversion than minimizing impacts on the estuary because it does not consider the cause and effect relationships among flow, salinity, and ecosystem impacts, while it considers the effect of proposed objectives on levels of diversion.**

The FD Plan continues to give greater weight to the quantifiable impacts of alternatives on water diversions, while ignoring quantifiable impacts on natural resources such as salinity levels in Suisun Marsh, Salmon Smolt survival, or entrapment zone location. Section 6 of the plan discusses impacts of alternatives on some natural resources but so cursorily and qualitatively that it is impossible for a decision-maker to systematically evaluate the relative impacts of each alternative.

- e. **The Revised Draft Plan's proposed acceptance of the Suisun Marsh Preservation Agreement would allow further degradation of water quality within the Marsh, because it gives priority to water diversion demands over the needs of the Marsh.**

The only positive response of the FD Plan to BCDC's comments is that it no longer recommends adoption of the Suisun Marsh Preservation Agreement (SMPA). However, the plan remains equivocal and confused on this issue, claiming that the SMPA "may adequately protect the managed wetlands" (p. 5-44), identifying D-1485 Suisun Marsh standards as "SMPA" (p. 6.2-1), and stating that the SMPA deficiency standards "could" increase salinity in the western marsh (p. 5.6-3). Instead it recommends new Suisun Marsh standards that

are considerably weaker than the 1978 Delta Plan because they abandon the critical monitoring station at the mouth of Montezuma Slough and move other monitoring stations further upstream. The FD Plan mistakenly claims, "these changes would not seem to change the level of protection," when they clearly allow higher salinities in what the 1978 Plan EIR identified was the most productive part of the marsh.

In addition, the FD Plan has abandoned the position adopted in the 1978 plan that upstream water projects should mitigate the adverse affects of their operation on Suisun Marsh, and appears to have mischaracterized the 1978 Board's position on enforcing the Suisun Marsh standards by water project releases (p. 5.6-1).

- f. The Revised Draft Plan proposes anti-degradation objectives to protect the brackish tidal wetlands of Suisun Marsh and Suisun Bay, which if rigorously enforced would protect only about one-half of the tidal wetlands. These anti-degradation objectives have no guarantee of enforcement and may be modified in the future after considering their effects on water diversions.**

The FD Plan has abandoned the proposed anti-degradation objectives and has failed to replace them with any other means of protecting brackish wetland habitat and the endangered species that depend on it. One of the reasons cited by the FD Plan for apparently not considering BCDC's recommended objectives was the Board's inability to convert higher high tide salinities to high tide salinity (p. 5-47), even though this was based on a State Board memorandum and DWR models presented in evidence.

- g. The Revised Draft Plan would slightly improve salinity standards for striped bass spawning in the Delta, but recognizes that without improvements in the more significant flow standards that provide increased outflow, reduction in flow reversals, and management of the entrapment zone, there will be little improvement in the population of striped bass in the estuary.**

The FD Plan has weakened the salinity objectives it had previously set in the RD Plan for striped bass by the insertion of an undefined relaxation of the limit of the time period for the objective by inserting "or until spawning has ended." In addition, the Plan now allows higher salinities in dry and critical years at Prisoners Point.

- h. The Revised Draft Plan includes new temperature objectives to protect salmon in the Sacramento and San Joaquin Rivers. These objectives, if rigorously enforced in conjunction with the improved salmon smolt survival standard, could improve salmon populations in the estuary. However, enforcement of these standards is limited to undefined "controllable" factors that may preclude the use of reservoir flow released for this purpose.**

The new temperature objectives proposed for salmon have been made virtually meaningless in the FD Plan because they now specifically exclude reservoir releases as a means of controlling temperature. The plan provides no evidence that any other means could achieve the temperature objectives. The proposed temperature objectives have been further weakened by exclusion of the period of July through August.

- i. **The State Board's process for enacting objectives for protecting the beneficial uses of the estuary has been delayed until at least 1992, while the Board has permitted additional fresh water diversions from the estuary.**

The lower priority given to beneficial uses in the estuary is illustrated by the proposed abandonment of even the minimal standards required by the 1978 Delta Plan during the present drought.

BCDC RECOMMENDATIONS

- a. **The State Board should recognize the technical impossibility of separating flow from salinity in the development of an effective and balanced set of objectives for managing and protecting the San Francisco Bay estuary. The Water Quality Control Plan should therefore include the striped bass and salmon flow objectives assumed but not stated in its analysis of impacts and benefits of the Revised Draft Plan.**

The FD Plan has continued to artificially separate flow from salinity objectives even though it recognizes that in order to analyze the plan's impact on water supply flow assumptions have to be made (P 6-19).

- b. **The Revised Draft Plan should explicitly state its goals in setting objectives for managing the estuary and explain why alternative goals, such as maintaining or restoring the estuary, were rejected.**

The FD Plan has failed to state clearly its management goals for the estuary. However, it has selected "Present Conditions" as its base case for assessing the impacts of the proposed objectives (p. 5-2). This acceptance of the present degraded level of natural resources as a yardstick for comparison inevitably biases the plan against addressing substantive measures to enhance and maintain the estuary to historic levels.

In addition, the FD plan has rejected the use of unimpaired flows as a basis for assessing alternatives to managing the estuary while retaining it for determining winter supply (p. 1-6). WPC

- c. **The Revised Draft Plan should not use the Suisun Marsh Preservation Agreement as a basis for salinity objectives for the Suisun Marsh, and the terms and intent of the 1978 Delta Plan should remain in effect.**

While the Plan no longer adopts the SMPA's recommended objectives, it has abandoned the intent of the 1978 Delta Plan - to maintain salinities in Suisun Marsh at pre-water project levels.

- d. **A salinity standard should be established at Martinez to protect tidal wetlands in Suisun Bay and Suisun Marsh against degradation.**

The Plan fails to adopt objectives for tidal wetlands, citing uncertainty that the Martinez station proposed by BCDC would provide better protection for "south shore tidal reaches" than one at Chipps Island or in Grizzly Bay. While ignoring BCDC's concern over tidal wetlands in Suisun Marsh itself, the Plan proposes no objectives for Chipps Island (an obviously unsuitable station 12 miles upstream), and the Plan elsewhere eliminates the only station previously proposed near Grizzly Bay (S36).

- e. **The salmon temperature objectives in the Revised Draft Plan should be modified to provide lower temperatures that result in higher smolt survival levels than that recommended, and these objectives should clearly establish that they will be met by measures that include increased flow releases.**

The FD plan has excluded flow releases as a means to meet temperature objectives.

- f. **Salinity objectives should be established in the Revised Draft Plan to protect the Delta Smelt from extinction.**

Because of the strict burden of proof required by the Plan, no objectives are proposed to protect Delta Smelt from extinction.

- g. **The Final Plan should evaluate an alternative whose goal is maintaining estuarine resources, and would include: 1) salinity objectives to maintain the managed and tidal wetlands of Suisun Marsh and Suisun Bay; 2) both flow and salinity objectives for fisheries that were recommended by the State Board staff in the 1988 first draft water quality control plan; and 3) salinity objectives to maximize phytoplankton in Suisun Bay.**

No such alternative was analyzed or formulated.

- h. **To meet the requirements of CEQA, the plan should: 1) provide a clear project definition; 2) systematically analyze the impact on the estuarine ecosystem of**

alternatives, using the quantifiable cause-and-effect relationships among flow, salinity, and the ecosystem that were presented in the Phase I hearings; and 3) clearly describe the tradeoffs between impacts on diversions and impacts on the estuary for each alternative.

The FD plan does not provide a clear project definition, as it does not articulate management goals for the estuary, nor does it systematically analyze impacts and trade-offs between estuarine resources and beneficial uses of diverted water.

- i. **The Final Plan should identify an adaptive management planning process for the estuary that includes the following components: 1) a conceptual model of how flow affects the estuarine ecosystem; 2) the goals established for managing components of the ecosystem; 3) establishment of flow and water quality standards to meet these goals; 4) a research and monitoring program to improve these standards; 5) clear enforcement policies and mechanisms; and 6) a process for periodic comprehensive review of the estuarine management program.**

The FD plan fails to provide a systematic adaptive management planning process (as was done in the 1978 Delta Plan) because of its inherent methodological and conceptual flaws.